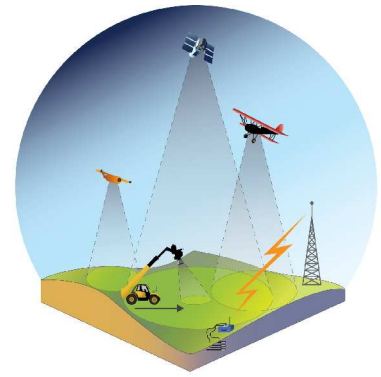




# Iowa Validation Site:

validating remotely-sensed measurements  
of the land surface hydrologic cycle.

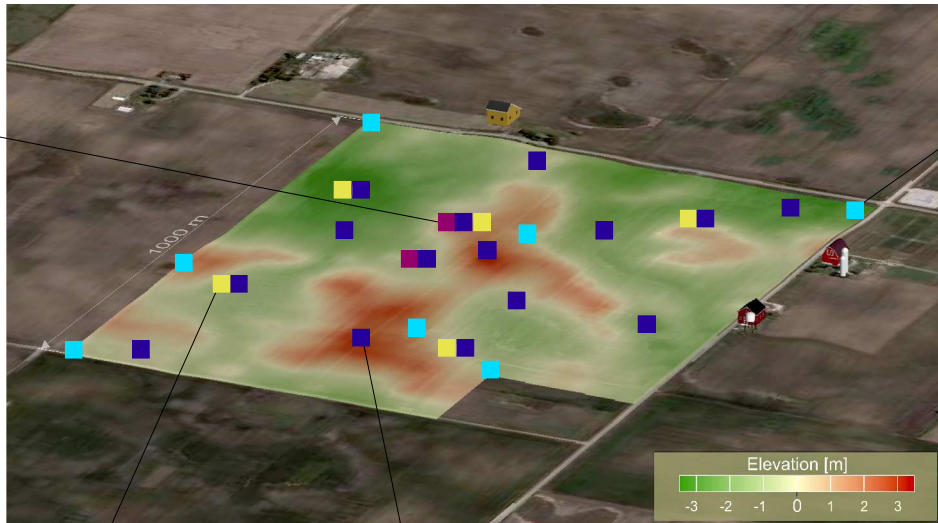


- Remote sensing technologies can observe the land surface hydrologic cycle, *but the quantitative aspects of these remotely-sensed observations are not well known.*
- We present a small (1 km<sup>2</sup>) prototype experimental validation site. Initially we will focus on validating remotely-sensed observations of soil moisture.
- The site is an agricultural field (corn-soybean rotation) located near the campus of Iowa State University in Ames, Iowa, USA.
- Our initial effort is scheduled to last through 2010, but our intent is to maintain the site indefinitely.
- We will supply the data generated at the site instantly through the use of wireless technologies and the world wide web.
- We hope to support current and upcoming satellite missions that make hydrologic cycle observations.



Eddy-correlation flux towers (2).

Fluxes of latent heat (evapotranspiration), sensible heat, and carbon dioxide.



Precipitation stations (7).  
Dual tipping-bucket design.



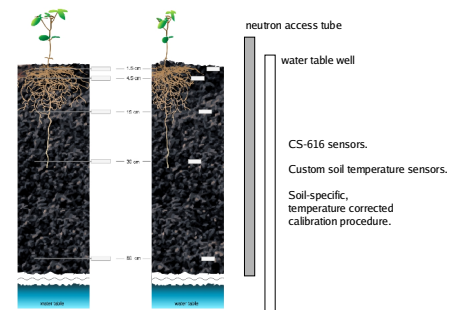
Radiation stations (5).

Downwelling and upwelling  
shortwave and longwave radiation.



Soil moisture and temperature stations (15).

1.5 (2), 4.5 (2), 15, 30, and 60 cm.  
0-1m, depth to water table.



From left to right: installation of CS-616 water content reflectometer to measure near-surface soil moisture; CS-616 prior to backfilling of soil; mobile L-band radiometer system; example of auxiliary measurements (LAI, biomass, topography, soil properties, etc.); picture of the site in June, 2007.

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